A MEchanically Based Antenna (AMEBA) Question & Answer --- January 13, 2017

1. Q: We did not have time to fully explore collaboration and teaming opportunities before the Abstracts deadline. Should we still submit an Abstract and continue our efforts to team for the full proposals?

   A: We encourage you to submit an Abstract and continue to explore the opportunity of teaming to strengthen your approach before the full proposal deadline.

2. Q: Is there expressed preference for an electro-mechanical technical solution?

   A: No. Any approach meeting the program objectives and the BAA metrics will be considered.

3. Q: Can you clarify the system size requirement?

   A: The complete system, including all required subsystems and components, must collectively fit within a single, self-contained volume meeting the maximum linear dimension and maximum volume specifications in the BAA. The requirements should be met both in storage as well as during operation.

4. Q: Is there a requirement for waterproofing the system?

   A: No.

5. Q: It appears that for testing, the performers will need to acquire and use a baseline magnetic sensor receiver? Are the performers required to provide a receiver as a part of the program?

   A: Yes, a magnetic receiver will be necessary for testing the transmitter performance at downrange distances. Acquiring a magnetic sensor with suitable performance is permissible. Any acquisition of instrumentation should be properly costed with supporting quotations from potential vendors.

6. Q: If a spinning system is considered, some energy will be required to overcome the rotational inertia of the system. Is this a subject to the BAA specifications?

   A: Yes, the maximum energy to achieve steady state operation at the required frequency is specified in the BAA. The duration with which the spin rate is attained is decided by the performer, provided the maximum energy consumed to reach the spin rate is less than the metrics specified in the BAA.

7. Q: The BAA specified size metric starts at smaller dimensions and progressively increases at later program phases. Some approaches may be able to achieve the Phase I metrics with larger size systems that can be reduced as the program progresses. Would the Government consider modifying the size metrics to accommodate such scaling?

   A: No.

8. Q: Can phases be skipped?

   A: No.

9. Q: Does the Government assume any specific EM environment configurations during testing of the magnetic field?

   A: No. The BAA metrics are met by assuming free-space conditions for the generated magnetic fields. If the specific EM environment during test results in modified field conditions, a suitable correction is expected. In your proposal, please discuss the proposed test conditions and expected corrections in the B-field models. A detailed test plan as a part of the proposal is highly recommended.

10. Q: Is it acceptable to have a small number of transmitters (2-3) spatially separated with a short stick connecting/separating them?

    A: The overall size of the system is subject to the maximum linear dimension as well as the maximum volume metrics as specified in the BAA. In other words, the transmitter must be self-contained within the maximum linear and volume dimensions specified in the BAA.

11. Q: Will the Government consider transmitters operating at a duty cycle of less than 100%?

    A: No. The BAA specifies continuous operation – 100% duty cycle.

12. Q: Why does the BAA specify the modulation rate in Hz per second and not in bits per second?

    A: The program is concerned with the ability to efficiently modulate the RF carrier transmission. At this stage, the program is not concerned with specific data-encoding strategies or the specific properties of a potential communication link.

13. Q: Would you comment on the question about scalability of the system beyond the BAA constraints in size, weight and power?

A: Scalability beyond the BAA metrics is not a requirement. However, an estimate of the potential for scalability and the technical innovation required to achieve it will better inform the Government with regards to the broader applicability of the proposed technical approach.

14. Q: Does the AMEBA program assume directionality in the RF transmission?

    A: No. Directionality is not assumed nor required. However, there is no requirement for omnidirectional transmission either. Any orientation of the transmitter with respect to the receiver is acceptable as long as it meets the BAA metrics.

15. Q: The BAA specifies maximum linear acceleration as a measure of system ruggedness. Is there a metric for the required level of rotational acceleration that the transmitter must withstand?

    A: No.

16. Q: Must the proposed transmitter be movable while transmitting, or can the transmitter remain stationary while transmitting?

    A: The transmitter must only operate while stationary but is subject to the BAA metric for acceleration when being moved. Solutions that can operate while moving, while not required, are preferred.

17. Q: Should proposers be concerned with gaps in funding between program phases?

    A: For performers selected for Phases II and III, contract options are exercised as quickly as practically possible and every effort is made to avoid gaps in funding.

18. Q: Should proposers anticipate down-selects between program phases?

    A: Awards of options for Phases II and III are based on performance and available funding.

19. Q: Should the cost proposal address all three phases or is there an expectation of a proposal at the end of each phase?

    A: The proposals, both in the technical volume as well as in the cost volume, must address the full program (all three phases), otherwise the proposal would be considered not responsive.

20. Q: In TA1, should the frequency range 0.1 – 1.0 kHz be continuously tunable?

A: It is not required that the solution be continuously tunable over the 0.1 to 1 kHz frequency range. At a minimum the solution must be able to operate at both 0.1 and 1 kHz. The ability to operate at additional frequencies in between 0.1 and 1 kHz is desirable.

21. Q: Our organization anticipates that our proposal may be subject to export control. How should we handle that?

    A: It should be a determination by your organization. The proposal should be marked accordingly.

22. Q: Is a pulsed transmitter permissible provided it results in a steady-state magnetic field at the specified distances and meets all of the program metrics?

    A: Yes. The prohibition against pulsed systems is solely for solutions that do not result in a steady-state magnetic field at the specified distances.